

Framework for Water Quality Management in the U.S.

presentation by:

Ken Greenberg

U.S. Environmental Protection Agency



Water Quality Laws

- Clean Water Act
- Safe Drinking Water Act

Roots of Clean Water Act

Early 1970's

- National water quality getting worse
- Public outcry over burning Cuyahoga River and raw sewage in San Francisco Bay
- Insufficient national directive to protect water quality, weak control by States

Clean Water Act (1972)

- Goals: Fishable/swimmable waters and "zero" discharge of pollutants
- Water Quality Planning and Standards
- Discharge Permitting and Enforcement
- Delegation of Authority to States
- Financial Assistance
- Wetlands Protection

Clean Water Act: Implementation

- U.S. Environmental Protection Agency
- States and Tribes
- Interstate Authorities
- Municipalities and Local Planning Authorities
- Public and NGOs

Clean Water Act Implementation

U.S. Environmental Protection Agency:

- Uniform discharge standards (available technology) - industrial and municipal
- National water quality guidelines
- Finance construction of domestic sewage treatment
- Oversee and financially assist State regulatory programs
- Compliance and enforcement

Clean Water Act Implementation

States:

- ~~Ambient~~ water quality standards and beneficial uses
- Ambient monitoring
- Discharge permitting (industrial and domestic wastewater)
- Compliance and enforcement

Clean Water Act Implementation

- Municipalities:

- Sewage treatment

- Regulate industrial users

- Public and NGOs:

- Comment on standards and permits

- Access to water quality and discharge data

- Enforce discharge permits

Trends in Water Pollution Control

- 1970s: Technology based discharge limits
Industry and cities install treatment
Conventional pollutants controlled
- 1980s: Water quality based discharge limits
Advanced wastewater treatment
Industrial pretreatment
Metals and toxic pollutants controlled
- 1990s: Pollution prevention
Storm water management practices
Watershed protection and restoration

Clean Water Accomplishments 1972 - 1999

- 60% to 70% of waters meet standards
- \$130 billion invested in municipal sewage treatment for 173 million people (74% of US population)
- Over \$6 billion invested in industrial controls
- Toxic metals and organics down 98%

Clean Water Accomplishments Reasons for Success

- Nationally consistent discharge standards and water quality goals
- Delegations to States w/ strong EPA oversight
- Federally funded financial assistance
- Discharger self monitoring
- Enforcement ease and flexibility
- Public involvement and access to information
- National environmental ethic

Clean Water

Remaining Challenges

- 40% of waters not meeting standards
- Persistent toxics
- Fish contamination and reduced populations
- Causes: Urban storm water runoff
 - Agricultural and livestock runoff
 - Loss of wetlands habitat

Watershed Management

- Goal is ecosystem protection
- Stakeholder collaboration
- Assess watershed condition
- Determine acceptable total maximum daily load (TMDL)
- Allocate waste loads: point source permits and nonpoint management practices
- Watershed restoration

Clean Water Action Plan

- Clinton and Gore initiative, 1998
- Collaborative Effort
- Watershed Protection
- Improve Information and Public Access to Information
- Address Polluted Runoff
- Enhance Natural Resource Stewardship
- Protect Public Health